

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. - 19.. (Cancelled)

20. (Currently Amended) A method for the treatment of a disease involving signalling of a cytokine-~~through~~ through IL-2 cyc in the pathogenesis of said disease comprising administration of a therapeutically effective amount of NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof, in a subject in need.

21. (Original) The method according to claim 20, wherein the cytokine is IL-12.

22. (Original) The method according to claim 20, wherein the cytokine is IL-15.

23. (Original) The method according to claim 20, wherein the fragment of NIK comprises the C-terminus of NIK (from residue 624 to 947, SEQ ID NO:19).

24. (Original) The method according to claim 20, wherein the fragment of NIK comprises NIK 640-720 (SEQID NO: 18).

25. (Original) The method according to claim 20, wherein the mutant of NIK is AlyNIK.

26. (Currently Amended) A method for the treatment of a disease involving a cytokine stimulating signalling ~~through~~ through cyc in the pathogenesis of said disease comprising the administration of a therapeutically effective amount of an antibody capable of recognizing and binding NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof, to a subject in need.

27. (Currently Amended) A method for the treatment of a disease involving a cytokine stimulating signalling ~~through~~ through cyc in the pathogenesis of said disease

comprising administration of a therapeutically effective amount of DNA encoding NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof, to a subject in need.

28. (Currently Amended) A method of treatment of a disease involving a cytokine stimulating signalling ~~through~~ through cyc in the pathogenesis of said disease comprising administration therapeutically effective amount of DNA encoding the antisense of NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof, to a subject in need.

29. (Original) A method for treatment of a disease involving a cytokine able to stimulate cyc in the pathogenesis of said disease comprising administration of a therapeutically effective amount of a small molecule capable of modulating NIK-cyc interaction to a subject in need.

30. (Original) A pharmaceutical composition comprising NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or

fragment thereof for modulating the interaction between IL-2 common gamma chain (cyc) and NIK.

31. (Original) A pharmaceutical composition comprising a DNA encoding NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof for modulating the interaction between IL-2 common gamma chain (cyc) and NIK.

32. (Original) A pharmaceutical composition comprising an antibody specific to NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof for modulating the interaction between IL-2 common gamma chain (cyc) and NIK.

33. (Original) A pharmaceutical composition comprising a small molecule capable of modulating the interaction between IL-2 common gamma chain (cyc) and NIK, wherein the small molecule is obtainable by screening small molecules prepared by combinatorial chemistry in a luciferase system.

34. (Original) A pharmaceutical composition comprising a DNA encoding the antisense of NIK or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof for modulating the interaction between IL-2 common gamma chain (cyc) and NIK.

35-41 (Cancelled)

42. (Original) A polypeptide fragment of NIK, comprising the IL-2R common gamma chain (cyc) binding domain, or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof.

43. (Original) A polypeptide fragment of NIK according to claim 42, comprising the C-terminus of NIK (from residue 624 to 947, SEQ ID NO:19).

44. (Currently Amended) A polypeptide fragment of NIK according to claim 42, comprising NIK 640-720 (SEQ\_ID NO: 18).

45. (Currently Amended) A DNA encoding the polypeptide fragment of NIK according to ~~anyone of claims 42 to 44~~ claim 42.

46. (Original) A vector comprising the DNA according to claim 45.

47. (Original) A cell comprising a vector according to claim 46.

48. (Currently Amended) A method for the production of a NIK polypeptide fragment according to ~~anyone of claims 42 to 44~~ claim 42, comprising culturing a cell ~~according to claim 47~~ comprising a vector comprising DNA encoding said NIK polypeptide fragment, and collecting the polypeptide produced.

49. (Currently Amended) An antibody, polyclonal or monoclonal, chimeric antibody, fully humanized antibody, anti-anti-Id antibody, intrabody or fragment thereof which specifically recognises and binds a polypeptide fragment of NIK according to ~~anyone of claims 42 to 44~~ claim 42.

50. (Original) A small molecule able to inhibit NIK-cyc interaction obtainable by screening of molecules prepared by combinatorial chemistry in a luciferase system.

51. (Currently Amended) A pharmaceutical composition comprising a polypeptide fragment of NIK according to ~~anyone of claims 42 to 44~~ claim 42.

52. (Original) A pharmaceutical composition comprising an antibody according to claim 49.

53. (Original) A pharmaceutical composition comprising a small molecule according to claim 50.

54. (Original) A pharmaceutical composition comprising a vector according to claim 47.

55. (Original) A pharmaceutical composition comprising a DNA according to claim 45.

56. (Currently Amended) The pharmaceutical composition according to ~~anyone of claims 51 to 55~~ claim 51, for modulating signalling ~~through~~ through cyc.

57. (Currently Amended) The pharmaceutical composition, comprising a polypeptide fragment of NIK according to ~~anyone of claims 42 to 44~~ claim 42, for the treatment of a disease wherein NIK and cyc interaction is involved in the pathogenesis of said disease.

58. - 65. (Cancelled)

66. (Original) A method for the treatment and/or prevention of a disease in which activation of a cytokine, having the common gamma chain in its receptor, is involved in the pathogenesis of the disease, comprising administering a therapeutically effective amount of a polypeptide fragment of NIK, comprising the cyc binding domain (SEQ ID. NO: 18), or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof to a subject in need.



67. (Original) A method according to claim 66, wherein IL-2 is involved in the pathogenesis of the disease.

68. (Original) A method according to claim 66, wherein IL-15 is involved in the pathogenesis of the disease.

69. (Original) A method of treatment and/or prevention of a disease in which NIK and cyc interaction is involved in the pathogenesis of said disease, comprising administering to a host in need thereof a therapeutically effective amount of a polypeptide comprising a fragment of NIK, comprising the cyc binding domain (SEQ ID NO: 18), or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof.

70. (Original) A method of treatment and/or prevention of a disease in which NF- $\kappa$ B activation is involved, comprising administering to a host in need thereof an effective amount of a fragment of NIK, corresponding to the cyc binding domain (SEQ ID NO: 18), or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof.

71. (Original) A method of treatment and/or prevention of a disease in which NF- $\kappa$ B activation is involved, comprising administering to a host in need thereof an effective amount of a small molecule according to claim 50.

72. (Currently Amended) A method ~~according to anyone of claims 69 or 70~~ according to claim 69, for the treatment of cancer.

~~A method according to anyone of claims 69 or 70, for the treatment of rheumatoid arthritis, osteoarthritis, inflammatory bowel disease, asthma, cardiac infaret, Alzheimer's disease, or atherosclerosis.~~

73. (Original) A method of treatment and/or prevention of a disease resulting from excessive immune responses, comprising administering to a host in need thereof a therapeutically effective amount of a polypeptide comprising a fragment of NIK, corresponding to the cyc binding domain (SEQ ID NO: 18), or a mutein, variant, fusion protein, functional derivative, circularly permuted derivative or fragment thereof.

74. (Original) A method according to claim 73, for the treatment of rheumatoid arthritis, osteoarthritis, inflammatory bowel disease, asthma, cardiac infarct, Alzheimer's disease, or atherosclerosis.

75. (New) A method according to claim 69, for the treatment of rheumatoid arthritis, osteoarthritis, inflammatory bowel disease, asthma, cardiac infarct, Alzheimer's disease, or atherosclerosis.